

ABSTRACT

A line-narrowed excimer or molecular fluorine laser system includes a discharge chamber filled with a gas mixture at least including molecular fluorine and a buffer gas, multiple electrodes within the discharge chamber connected to a discharge circuit for energizing the gas mixture, a resonator including a pair of resonator reflecting surfaces disposed on either side of the discharge chamber for generating a laser beam, and a line-narrowing/selection unit within the resonator for narrowing the bandwidth of the laser beam. The resonator further includes a third reflecting surface which is deformable and disposed between the pair of resonator reflecting surfaces. The line-narrowing/selection unit preferably includes a beam expander and a dispersive element, wherein the deformable third reflecting surface is disposed between the beam expander and the dispersive element.